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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/532,687	03/22/2000	David W. Livingston	97-1834	8857

7590 10/07/2004

Intellectual Property Office
The Pennsylvania State University
113 Technology Center
University Park, PA 16802

EXAMINER

CLARDY, S

ART UNIT	PAPER NUMBER
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1616

DATE MAILED: 10/07/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/532,687

Applicant(s)

LIVINGSTON, DAVID W.

Examiner

S. Mark Clardy

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 15 July 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-11 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-11 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

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Claims 1-11 are pending in this application.

Applicant's claims are drawn to compositions comprising:

N fertilizer	(claim 7: isobutylenediurea ¹)
Surfactant or wetting agent	(claim 4: nonionic)
Metal salt	(claim 3: copper, zinc, or iron sulfate)

Optionally containing a pH adjusting agent for pH 2-6 (claim 10), e.g., acetic acid (claim 11).

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(c) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

The changes made to 35 U.S.C. 102(e) by the American Inventors Protection Act of 1999 (AIPA) and the Intellectual Property and High Technology Technical Amendments Act of 2002 do not apply when the reference is a U.S. patent resulting directly or indirectly from an international application filed before November 29, 2000. Therefore, the prior art date of the reference is determined under 35 U.S.C. 102(e) prior to the amendment by the AIPA (pre-AIPA 35 U.S.C. 102(e)).

The previous rejection under 35 USC 103 is withdrawn in response to applicant's arguments, and replaced with the following.

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Claims 1-4 and 8 are rejected under 35 U.S.C. 102(a), (b), and (e) as being anticipated by Pace et al (US 4,507,142).

Pace et al teaches aqueous (col 7, lines 40-53) foliar fertilizer compositions comprising an alpha-oximino alkanolic acid component (abstract) in combination with a second essential ingredient, i.e., one or more sources of nitrogen, particularly conventional water soluble N-fertilizer compounds such as urea, ammonia, and ammonium and nitrate compounds, and water soluble urea and formaldehyde condensation products (col 6, lines 12-35). Other optional micronutrient components include water soluble salts of zinc, iron, copper, or other metals, such as their sulfate salts (col 7, lines 54-61), and surfactants (col 8, lines 54-61), including non-ionic surfactants (col 9, lines 29-38).

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-11 are rejected under 35 U.S.C. 103(a) as being unpatentable over the combined teachings of Pace et al, Young (US 4,214,888), and Moore, Jr. (US 4,297,130).

Pace et al has been discussed above. The utility of isobutylene diurea, and acetic acid as a pH adjusting agent, are not disclosed.

Young teaches foliar fertilizer compositions characterized by low phytotoxicity, low corrosivity, and improved toxicity stability comprising urea nitrogen and a pH buffer which maintains the pH between 6 and 7.6 (abstract, col 3, lines 59+). Suggested buffering systems

¹ A condensation product of isobutyraldehyde and urea with a minimum total N of 30%: $iPr-CH(NHCONH_2)_2$

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include those with acetic acid (columns 5-6; col 5, lines 40-45; col 6, lines 34-37). The compositions may further contain micronutrients such as sulfate salts of copper, zinc, and iron (col 7, lines 20-30), and surfactants (col 4, lines 28-31). One of ordinary skill in the art would be motivated to combine the pH buffering systems of the foliar fertilizers of Young with the foliar fertilizer compositions of Pace et al in order to gain the low corrosiveness of Young.

Moore, Jr. teaches that it is advantageous to include both an immediate release (water soluble) N-fertilizer and a slow-release (water insoluble) N-fertilizer, in sprayable foliar fertilizer compositions. The insoluble component slowly breaks down into soluble N-fertilizer compounds which may then be assimilated by the plant (columns 1-2). Representative water insoluble N-fertilizer compounds include isobutyl diurea and other urea condensates (col 2, lines 51 – 55). One of ordinary skill in the art would be motivated to combine the slow release isobutyl diurea component of Moore, Jr. with the foliar fertilizer compositions of Pace et al in order to gain the benefit of having N-fertilizer components released over a longer period of time.

Thus it would have been *prima facie* obvious to the ordinary artisan to have combined applicants' N-fertilizer, surfactant, metal salt, and acidic components in a single composition because the prior art teaches that such components are well known in the foliar fertilization art. Further, Young teaches the utility of acetic acid containing buffer systems for improving the corrosivity characteristics of foliar applied fertilizer solutions, while Moore, Jr. teaches the additional benefit of providing a slow release N-fertilizer component such as isobutyl diurea in an aqueous foliar fertilizer composition.

In claim 9, applicant has specified application rates for the composition. Application rates, however, are appropriate for method claims, not composition claims, because a

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composition of any given concentration may be used to provide any given application rate merely by adjusting the volume applied. For composition claims, it is appropriate to specify either concentrations or concentration ratios for multiple components. Further, absent evidence to the contrary, concentrations and ratios are obvious because it is within the skill level of the ordinary artisan to determine appropriate concentrations or ratios of ingredients.

None of the above pertains to methods of controlling moss, the apparent topic of applicant's disclosure; however, no claims are drawn to a method of use – only compositions. The prior art teaches that the components of the claimed composition are all known in the field of foliar fertilizer compositions, and that their combination, although for a different purpose, is at least obvious, if not anticipated. In a claim for a composition, a statement of intended use is of no patentable significance. *In re Maeder et al.* 143 USPQ 248.

The data presented in the specification demonstrates an improved benefit for the purposes of moss control when applicant's compositions are applied to moss. Note however, that objective evidence of nonobviousness must be commensurate in scope with the scope of the claims. *In re Tiffin*, 171 USPQ 294. A showing limited to a single species can hardly be considered probative of the invention's nonobviousness in view of the breadth of the claims.

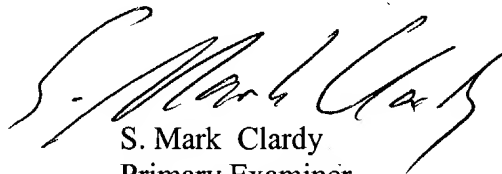
No claims are allowed.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to S. Mark Clardy whose telephone number is 571-272-0611. The examiner can normally be reached on 7:30-5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Gary Kunz can be reached on 571-272-0887. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

A handwritten signature in black ink, appearing to read "S. Mark Clardy", is positioned above the printed name.

S. Mark Clardy
Primary Examiner
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October 4, 2004